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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,026	08/11/2005	Hideaki Yamaoka	10921.0286USWO	4688
52835 7590 10/31/2007 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902			EXAMINER MEAH, MOHAMMAD Y	
			ART UNIT 1652	PAPER NUMBER
			MAIL DATE 10/31/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/526,026

Applicant(s)

YAMAOKA ET AL.

Examiner

Mohammad Meah

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 8/16/07.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,6-9,11-14 and 24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6-9,11-14 and 24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/16/07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

Claims 1, 6-9, 11-14 and 24 were examined in the previous action. With supplemental amendment of this application, the applicant, on dates on 08/16/07, amended claims 12.

### ***Claim Rejections***

#### **35 U.S.C 112**

##### ***Second paragraph requirement***

Rejection of claims 12 under 35 U.S.C. Second paragraph requirement is withdrawn after amendment of the claim.

#### **35 U.S.C 112**

##### ***I. Written Description requirement***

Rejection of claims 1-14 under 35 U.S.C. 112, first paragraph, Written Description requirement is withdrawn after amendment of the claims.

##### **II. Enablement requirement**

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Rejection of claims 1-11 and 12-14 under 35 U.S.C. 112, first paragraph, enablement requirement is withdrawn after amendment of the claims.

***CLAIM Rejection - 35 U.S.C 103a***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Rejection of claims 1, 6-9, 11-14 and 24 under 35 U.S.C. 103(a) by Shimomura et al (Anal biochem 1986 vol 153, pp 126-131) in view of Inose et al. (Biochimica biophysica acta 2003, 133-138) is withdrawn after applicant argument and submission of the English translation of their prior art.

However the following new 35 U.S.C. 103(a) rejection is applied using another new art:

Claims 1, 6-9, 11-14 and 24 are rejected under 35 U.S.C. 103(b) by Shimomura et al (Anal biochem 1986 vol 153, pp 126-131) in view of Sode et al. (WO 02/36779, English translation in US 20-04/0023330)

Claims 1, 6-9, 11-14 and 24 are directed to the purification of *Burkholderia* GDH protein comprising  $\alpha$ ,  $\beta$ ,  $\gamma$  using liquid chromatography using eluent containing cholate wherein the GDH.

Shimomura et al teaches the purification of Cytochrome bc ( a protein having electron transfer and GDH unit ) protein using liquid chromatography comprising phenyl-sepharose and

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ion exchange ( DEAE (detergent exchange anion exchange) sepharose column, wherein eluent is applied at constant gradient containing 0.25% cholate.

Sode teaches GDH protein from microorganism *Burkholderia Cepacia* comprising  $\alpha$ ,  $\beta$ ,  $\gamma$  subunit and teaches expression of said protein in *E. coli* and also teaches the purification of said GDH protein by column and ion-exchange chromatography.

However Sode et al. does not teach the elution of said columns with a hydroxyl cholate gradient. Advantageous use of cholate as an eluent in hydrophobic-interaction liquid chromatography to purify Cy GDH proteins is well documented (Shimomura et al ( Anal biochem 1986 vol 153, pp 126-131). As such it would have been obvious to one of ordinary skill in the art to obtain GDH protein comprising  $\alpha$ ,  $\beta$ ,  $\gamma$  subunit from microorganism *Burkholderia Cepacia* or said GDH produced by transformant such as *E. coli* taught by Sode and use the method of purification using liquid chromatography comprising phenyl-sepharose and ion exchange ( DEAE (detergent exchange anion exchange) sepharose column, wherein eluent is applied at constant gradient containing 0.25% cholate as taught by Shimomura et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad Meah whose telephone number is 571-272-1261. The examiner can normally be reached on 8:30-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax

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phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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